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# Where Is Everybody?

## Organizing Adults to Promote Child Engagement

**D**ebbie and Christy are teachers in a preschool classroom of three-year olds. Their classroom schedule incorporates teacher-directed activities such as circle time, art projects, music time, and reading into the children's day. Debbie and Christy feel, however, that they rarely complete all the planned teacher-directed activities successfully because minor situations, such as the need to assist a child with pottyng or answer the phone, seem to arise and occupy both teachers' attention frequently. Debbie and Christy have noticed that the children often end up sitting unoccupied, or behavior problems occur, because the children do not have anything productive to do while waiting for a teacher to return and resume the activity.

### **Zone Defense Schedule**

The zone defense schedule (ZDS) is a system for organizing the staff and environment of a preschool classroom (LeLaurin & Risley, 1972; McWilliam, 2002). More specifically, it is used to organize the roles of adults in the classroom so that transitions between activities are easier for children. Organizing transitions between activities can result in a maximal amount of productive time for children, a greater opportunity for teaching (both during the transition and because more time will be spent in activities), and a reduction in behavior problems (Sainato, 1990).

■ In the ZDS, transitions between activities are a time for children to make choices and are teaching opportunities. ■

The term *zone defense* comes from basketball, when players are responsible for an area of the court. It is contrasted with man-to-man defense, in which players are responsible for specific opponents. Thus, in early childhood classrooms, the ZDS allows children to move between teachers, and teachers do not have to "chase" specific children around the room. Using a ZDS, classroom staff are assigned specific roles during child activities. At least one adult works directly with the children while other adults complete extra classroom tasks such as cleaning, preparing activities, handling phone calls, and assisting with pottyng. Classroom staff are also assigned specific roles during transitions between activities. While one adult waits at the new activity center ready to greet the children and get them involved in the task, for example, another adult stays at the previous activity and keeps the children occupied until the last child has left the center.

This type of staffing of classroom zones, in which adults are present at both the new and prior activities, helps to ensure that children stay active across their day and do not have to wait needlessly between activities. Children are able to make transitions at their own pace and immediately participate in the new activity (i.e., they are not required to wait for their peers to finish the previous activity before they can transition to the next activity). In addition, children are not required to wait for a teacher to clean up or put away the previous activity and then pre-

pare the next activity before it can begin.

It is important to prevent needless waiting during transitions to ensure that children stay engaged across their day. The term *engagement* is used to describe the amount of time that children spend involved with the environment (i.e., with their peers, teachers, and/or classroom materials) in a way that is appropriate for their age, ability level, and surroundings (McWilliam & Bailey, 1992). Conversely, nonengagement refers to unoccupied behavior, such as crying, wandering around aimlessly, staring blankly, and aggression. The goal of the ZDS is to reduce nonengaged time by eliminating transitions that require children to wait, not occupied in an activity. Sainato and Lyon (1983) found that preschool children spend 20-35% of their class time in transition between activities (as cited in Sainato, Strain, Lefebvre, & Rapp, 1987). For children who are in a classroom for eight hours, this is equivalent to approximately two hours spent in transition from one activity to another (i.e., a large amount of time in which children have the potential to be nonengaged). Because of data such as these, transitions are generally considered to be undesirable, but the ZDS does not limit the number of transitions scheduled into a

child's day. One function of using the ZDS is to keep children engaged during transitions between activities, so there is no reason to avoid transitions. In the ZDS, transitions between activities are a time for children to make choices and are teaching opportunities. Organizing the roles of adults so that children can transition from one activity to another at their own pace, with an adult waiting at each zone, minimizes needless waiting during transitions and improves children's engagement.

### Designing and Using a ZDS

The ZDS is designed for use with children from birth to age five. It is appropriate for use with typically developing children and is especially helpful with children with disabilities, so it is suitable for any early childhood classroom. A ZDS can be constructed using the existing classroom schedule and requires two steps: dividing the schedule into blocks of time and assigning staff roles.

#### Step 1: Time Blocks

The first step is to divide the day into 15- or 20-minute blocks of time. The schedule should indicate child activities in addition to teacher break times. Although scheduling activities for short blocks of time is recommended (a long circle time, for instance, could promote nonengagement if children get bored with the activity), at times it is appropriate to schedule an activity across two or

more blocks of time. For instance, free play or rotation through learning centers is often scheduled for 30 minutes or more to allow children enough time to be involved in multiple play schemes.

In dividing the schedule into blocks of time, some potentially troublesome transitions should be avoided. For example, scheduling a quiet activity immediately following an active activity is not advised, because children are not able to decrease their activity level gradually and ease into the quiet activity (Alger, 1984). Krantz and Risley (1977) found that children's attention to a story was better when the activity was preceded by a low activity routine. In addition, children needed less time for the transition and displayed less disruptive behavior during the transition when the story was preceded by a less active routine. To avoid troublesome transitions, adjust the schedule so that an active activity follows a quiet activity, or with an intermediate activity scheduled between an active and quiet activity.

### Step 2: Role Assignment

The second step in constructing a ZDS is to assign roles to classroom staff. It is suggested that a template be used on which activity times are listed in a column and additional columns are assigned to Person A, Person B, and possibly Person C, etc., depending on the size of the staff. For a classroom with two adult staff members, Person A can be assigned to the set-up role (this person's duties explained following) for the first

block of time. Person B can be assigned to the set-up role for the second block of time, Person A for the third block of time, and so on, alternating among the adults for the entire day. For a classroom with three adult staff, the same method of role assignment is used, except that the set-up role is alternated among all three adults in the room. Once the set-up role is staggered across the day, the remaining adult(s) are assigned to be in charge of the activity scheduled for each block of time. Each adult sets up the activity of which he or she will be in charge during the next block of time. A sample schedule for a three-member classroom staff is shown in Figure 1.

Figure 1

#### Zone Defense Schedule for a Three-Person Classroom Staff

Time	Person A	Person B	Person C
8:00-8:15	Arrival	Set Up	Arrival
8:15-8:30	Story	Story	Set Up
8:30-8:45	Set Up	Free Play	Free Play
8:45-9:00	Circle	Set Up	Circle
9:00-9:15	Small Toys	Small Toys	Set up
9:15-9:30	Set Up	Centers	Centers
9:30-9:45	Set Up	Centers	Centers
9:45-10:00	Snack	Set Up	Snack
10:00-10:45	Outside/Hallway	Outside/Hallway	Set Up
10:45-11:00	Set Up	Music	Music
11:00-11:15	Art	Art	Set Up

### Tips for Making ZDS Work

The ZDS is designed with a focus on child engagement because of the cognitive, social, and behavioral benefits of increasing engagement levels. Research has shown that increases in children's engagement are related to positive outcomes in thinking and reasoning skills, behavior, and interactions with others (e.g., Berliner & Rosenshine, 1977; Favell, Favell, Reid, & Risley, 1983; Favell & Risley, 1984; Fisher & Berliner, 1985). In addition, research also has shown that when engagement is promoted in the classroom children are more likely to participate in developmentally appropriate activities (Dunst, McWilliam, & Holbert, 1986). Therefore, increasing engagement may help children to meet individualized goals in a variety of areas. By supporting flexibility in time schedules and adult roles and ensuring that activities and materials are ready (thus reducing child waiting), the ZDS is designed to promote increased engagement levels.

#### Flexibility

The key to implementing the ZDS is to be flexible. The schedule is not a rigid structure demanding activities to be switched every 15-20 minutes. Instead, the ZDS is used as a guide to ensure that adults have organized roles and that child engagement is being promoted. For example, an entire block of time is not set aside for bathroom breaks. This is because bathroom breaks should occur as

needed throughout the day, rather than as a group activity, to prevent interrupting play with a routine that consists of a high percentage of time spent waiting and wandering (Alger, 1984; Leavitt & Eheart, 1985). The adult in the set-up role is responsible for taking care of the "extra" classroom tasks, such as assisting with bathroom breaks. Other duties that the set-up person completes are cleaning up the previous activity, setting up the next activity, answering the phone, greeting visitors to the classroom, handling a child having a temper tantrum, and managing other unplanned situations. The adult in charge of the activity stays with the children, interacting with them and assisting them in their play and learning.

Flexibility in implementing the ZDS also allows children to set the pace of activities. If a child is slow to transition from one activity to the next, the ZDS accounts for the child's choice by ensuring that an adult is responsible for staying at the activity until the child decides to switch zones. If an activity is going particularly well (i.e., children are engaged at high levels), teachers are encouraged to extend the activity rather than switching to the next activity at the scheduled time. Recall that the ZDS is designed to promote high levels of engagement; therefore, ending an activity that is highly engaging for children in order to follow the schedule is not necessary or recommended.

The ZDS offers variety in the duties of classroom staff because roles are alternated during the day



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and each week. The set-up role is alternated for each routine and the daily roles of adults are switched weekly (i.e., the designation of Person A, B, or C is rotated each week). The ZDS is likely to create a feeling of empowerment in classroom staff because all adults in the room are responsible for activities, not just lead teachers.

#### Importance of the Set-Up Role

The set-up role is the critical element of the ZDS. Having materials in place before children make the transition to a new activity allows the children to become involved independently once they reach the new zone, rather than waiting for an adult to introduce the new activity (Leavitt & Eheart, 1985). Having one person take care of the extra tasks allows the adult in charge of the activity to focus on child engagement. In other words, the adult in charge of the activity is able to devote his or her full attention to the children and current activity without being distracted. This reduces the chances of children being nonengaged for two reasons. First, children will not have to wait on a teacher to return to the activity following a disruption. If a visitor arrives during circle time, for instance, one teacher will continue to conduct the group activity while the teacher in the set-up role talks with the visitor. Children are not asked to sit and wait while the teacher who was

leading circle time talks with the visitor.

Second, research has shown that assigning an adult to focus solely on one learning activity (rather than focusing on a specific subset of children or supervising the entire classroom) results in increased levels of child engagement (Hart, 1982). Having a teacher focused solely on the current activity also increases the likelihood that the teacher will be able to encourage more sophisticated play by children because he or she is not distracted by the demands of switching attention between two tasks.

Having an adult in the set-up role is also important because it gives children more freedom to make choices during activities. Having an adult at both the current and new activity sites allows children to choose when to transition between activities rather than demanding that they transition as a group. Hart (1982) suggests that the key to maintaining child engagement is: (1) to let the child decide when he or she is done with an activity, (2) to allow him or her to transition to the next activity individually, and (3) to provide attractive activities so the child is motivated to finish one activity and transition to the next. Having an adult at both the new and prior activity sites also allows for children who do not participate in the activity. The adult in the set-up role is responsible for engaging such children in an alternate activity so the teacher assigned to the scheduled activity can remain focused on the activity

and group engagement. Therefore, the set-up role is important because it allows children to make choices, thus helping with engagement.

### **Does the ZDS Actually Promote Engagement?**

A study comparing the ZDS to "man-to-man" staff assignments (an organization in which each teacher is assigned to a specific group of children and stays with them during each activity and transition) measured the amount of time that preschool children lost when transitioning between activities (LeLaurin & Risley, 1972). Researchers found that shorter transitions with high levels of participation were characteristic of the ZDS, whereas long transitions with low levels of participation were characteristic of man-to-man defense. The researchers calculated the average amount of time lost per child (time when the child was not participating because of transitioning between activities) for four routines and found that, using the ZDS, the average was 9.91 minutes lost per child. Man-to-man defense, on the other hand, resulted in an average of 20.74 minutes lost per child. Therefore, research supports the use of the ZDS to reduce nonengaged time during transitions between activities.

As part of a research project designed to study methods of improving engagement in preschoolers with disabilities, the

effectiveness of the ZDS, in combination with two other interventions, was studied in preschool classrooms (McWilliam, 2002). The research project had teachers implement a package of three interventions: ZDS, incidental teaching (i.e., using a child's interest to increase the length or enhance the sophistication of engagement), and data collection on child engagement by teachers. Data on child nonengagement were collected before and during intervention. Data summaries on one particular child indicated that nonengagement was at its highest level before intervention began and decreased upon implementation of the first intervention, data collection by the teacher. The second intervention, incidental teaching, did not have much impact as the level of nonengagement actually increased somewhat. However, upon implementation of the third intervention, the ZDS, the child's level of nonengagement began a steady decline. The percentage of time the child spent nonengaged stayed at a low level throughout the use of the ZDS in the classroom. These data from one child lend support to the idea that the ZDS is a useful method for decreasing nonengagement in preschool classrooms that include children with disabilities.

### **Summary**

Returning to the vignette, Debbie and Christy develop a ZDS that assigns each of them to specific roles during each routine of the day. While one of the teachers is assigned to focus on the scheduled



activity, the other is assigned to take care of all other classroom duties and minor situations. As shown in Figure 2, at 8:15, while Person B is reading a story to the class, Person A is straightening up the room after arrival and making sure toys are accessible for free play (the titles "Person A" and "Person B" are used because Debbie and Christy alternate roles each week). Once Person A completes her tasks, she joins the reading group. If a child arrives to class late, Person A (the teacher in the set-up role) greets the child and helps him or her join the ongoing activity.

As story time is ending, Person A goes to the area of the room that is designated for free play so she will be ready to engage the first child to transition to free play (see Figure 3; teachers are designated by stars, children are designated by marked circles). Meanwhile, the teacher who led story time stays

behind and continues to engage children who have not yet transitioned to free play. Once the last child has left story time, Person B puts away the books, prepares for circle time, and is then available to interact with the children in free play.

As Debbie and Christy implement their ZDS they encounter a couple of challenges. First, they are unsure how to handle long stretches of time, such as half an hour of rotating through centers. There are two possible solutions to scheduling long amounts of time in the same activity. One is to have each staff member maintain a single role throughout the entire activity. Once the person in the set-up role has completed cleaning up the previous activity and preparing the next one, he or she joins the ongoing activity (of course, unplanned occurrences, such as a visitor to the class, are handled by the person in the set-

up role). The other option for scheduling long amounts of time is to switch roles halfway through the activity. This may be a particularly good option if more than one teacher-directed activity is included in the rotation through centers. If teachers switch roles halfway through, each teacher would be in charge of a teacher-directed activity, instead of the traditional method of having one teacher lead multiple activities.

The second challenge Debbie and Christy encounter is when the person in the set-up role cannot attend to all of her duties at once. For example, once when the next activity still had to be prepared, a child needed individual attention, and there was a phone call, so the person in the set-up role felt overwhelmed. At times, when multiple unplanned situations occur, it is necessary for the teacher leading the scheduled activity to assist the person in the set-up role. The

Figure 2  
**Debbie and Christy's Zone Defense Schedule**

Time	Person A	Person B
8:00-8:15	Arrival	Set Up
8:15-8:30	Set Up	Story
8:30-8:45	Free Play	Set Up
8:45-9:00	Set Up	Circle
9:00-9:15	Small Toys	Set Up
9:15-9:30	Set Up	Centers
9:30-9:45	Set Up	Centers
9:45-10:00	Snack	Set Up
10:00-10:45	Set Up	Outside/Hallway
10:45-11:00	Music	Set Up

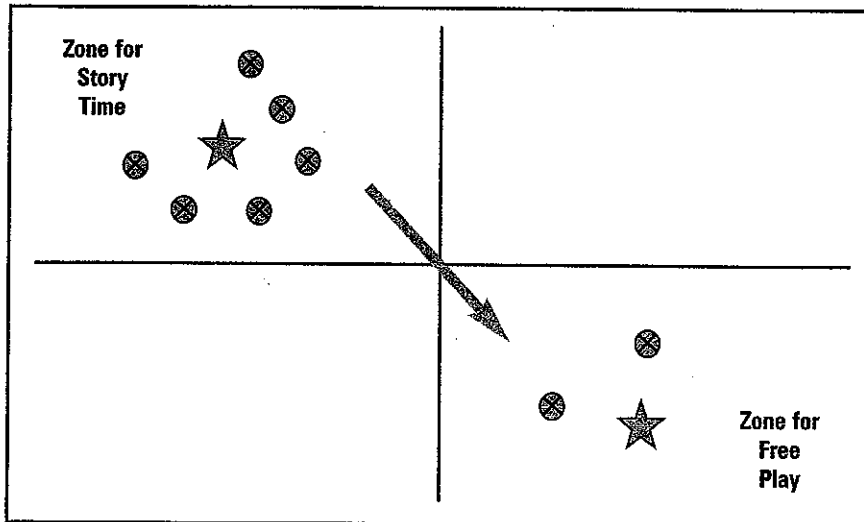
function of the ZDS is to provide a structure for handling unplanned situations by determining who is the first to respond. Providing this sort of structure prevents the classroom from being unattended during unplanned situations, or at least delays the point when all staff must be focused on situations other than the scheduled activity. In other words, the ZDS helps to lower the frequency of points during the day when no adults are available to focus on child engagement.

Scheduling is important for preschool classrooms because it makes the day predictable for children, reduces downtime for children during transitions, and specifies the tasks and division of responsibility for teachers (O'Brien, 1997). The method of zone defense scheduling is unique

because of its focus on engagement, achieved by assigning an adult to the set-up role during each routine and making transitions easier for children. During routines, at least one adult is assigned to the child activity to interact with the class and enhance the children's play, while another adult takes care of extra tasks. During transitions, one adult is waiting at the new activity with materials prepared, ready to engage immediately the first child who arrives, while another adult remains at the previous activity to ensure that the children remain engaged until they leave the activity. Furthermore, research to date on ZDS implementation has demonstrated a positive impact on child engagement (LeLaurin & Risley, 1972; McWilliam, 2002).

... [T]he ZDS helps to lower the frequency of points during the day when no adults are available to focus on child engagement.

Figure 3  
**Teacher Roles During Transition From Story Time to Free Play**



(Teachers are designated by stars; children are designated by marked circles. One teacher staffs each zone so that children stay engaged until they leave story time and are engaged immediately when they enter free play.)

## Notes

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## References

- Alger, H. A. (1984). Transitions: Alternatives to manipulative management techniques. *Young Children*, 39(6), 16-25.
- Berliner, D. C., & Rosenshine, B. (1977). The acquisition of knowledge in the classroom. In R. Spiro & W. Montague (Eds.), *Schooling and the acquisition of knowledge* (pp. 101-122). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Dunst, C. J., McWilliam, R. A., & Holbert, K. (1986). Assessment of preschool classroom environments. *Diagnostique*, 11, 212-232.
- Favell, J. E., Favell, J. E., Reid, D. H., & Risley, T. R. (1983, December 2). *Organizing living environments for developmentally disabled persons*. Workshop presentation at the World Congress on Behavior Therapy and 17th Annual Association for the Advancement of Behavior Therapy Convention, Washington, DC.
- Favell, J. E., & Risley, T. R. (1984, November 30). *Organizing living environments for developmentally disabled persons*. Workshop presentation at the 18th Annual Association for the Advancement of Behavior Therapy Convention, Philadelphia, PA.
- Fisher, C. W., & Berliner, D. C. (1985). *Perspectives on instructional time*. New York: Longman.
- Hart, B. (1982). So that teachers can teach: Assigning roles and responsibilities. *Topics in Early Childhood Special Education*, 2, 1-8.
- Krantz, P. J., & Risley, T. R. (1977). Behavioral ecology in the classroom. In K. D. O'Leary & S. G. O'Leary (Eds.), *Classroom management: The successful use of behavior modification* (2nd ed.) (pp. 349-367). New York: Pergamon.
- Leavitt, R. L., & Eheart, B. K. (1985). *Toddler daycare: A guide to responsive caregiving*. Lexington, MA: Lexington Books.
- LeLaurin, K., & Risley, T. R. (1972). The organization of daycare environments: "Zone" versus "man-to-man" staff assignments. *Journal of Applied Behavior Analysis*, 5, 225-232.
- McWilliam, R. A. (2002, July 12). *Improving engagement in preschoolers through classroom-level interventions*. Poster presented at the OSEP Research Project Directors' Meeting, Washington, DC.
- McWilliam, R. A., & Bailey, D. B. (1992). Promoting engagement and mastery. In D. B. Bailey & M. Wolery (Eds.), *Teaching infants and preschoolers with disabilities* (pp. 229-255). Columbus, OH: Merrill.
- O'Brien, M. (1997). *Inclusive child care for infants and toddlers: Meeting individual and special needs*. Baltimore: Paul H. Brookes.
- Sainato, D. M. (1990). Classroom transitions: Organizing environments to promote independent performance in preschool children with disabilities. *Education and Treatment of Children*, 13, 288-297.
- Sainato, D. M., & Lyon, S. R. (1983). Social status and initiations of interactions by learning disabled students in a regular education setting. *Analysis and Intervention in Developmental Disabilities*, 3(1), 71-87.
- Sainato, D. M., Strain, P. S., Lefebvre, D., & Rapp, N. (1987). Facilitating transition times with handicapped preschool children: A comparison between peer-mediated and antecedent prompt procedures. *Journal of Applied Behavior Analysis*, 20, 285-291.